



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,604	12/23/2003	David M. Hoffman	GEMS0223PA	1603
27256	7590	08/24/2005	EXAMINER	
ARTZ & ARTZ, P.C. 28333 TELEGRAPH RD. SUITE 250 SOUTHFIELD, MI 48034			MIDKIFF, ANASTASIA	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/707,604

Applicant(s)

HOFFMAN, DAVID M.

Examiner

Anastasia Midkiff

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____  | 6) <input type="checkbox"/> Other: ____                                     |

## **DETAILED ACTION**

### ***Oath/Declaration***

It does not identify the zip code for the mailing address of each inventor. A mailing address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing address should include the ZIP Code designation. The mailing address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure 2, Items 29, 30, and 32. These items are in the drawings, but no reference numbers are listed on the diagram.

The drawings are objected to because the numbering of items in the figures skips from item 30 to item 32, without any item having the number 31 assigned.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the flow chart of computer logic in claims 6-10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as

Art Unit: 2882

either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The abstract of the disclosure is objected to because the logic of claims 6-10 and the testing methods of claims 18-21 are not discussed. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

Claims 16 and 17 are objected to because of the following informalities:

Claims 16 and 17 both refer to "said first conductive film," and refer to the assembly of Claim 13 as the apparatus where said film is found. The first conductive film is not mentioned until Claim 15. Therefore, the film cited in Claims 16 and 17 should reference Claim 15, not Claim 13.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "said" in reference to a *photodetector* array. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent to Auphin (USP# 4,4047,034).

Auphin teaches the use of a testing method for an imaging detector assembly where the EL diode is in communication with scintillators (51), and generates a reference light signal, which, in turn, elicits a response signal from the detector array (20), and uses said signal to evaluate the image assembly, wherein said evaluation comprises diagnosing the detector assembly (18) or calibrating the detector assembly (18). (See Figure 3 and Column 1 Lines 4-67.)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent to Okumura (USP# 6,658,082) in view of U.S. Patent Publication to Brabec (2004/0113088 A1).

With respect to Claim 1, Okumura teaches an imaging assembly (10) that is comprised of an x-ray source (14); a detector assembly (18) which is comprised of: a detector array with a plurality of photodiode detection elements (20), scintillators (51) between the aforementioned photodiode detectors and said x-ray source; a collimator (62) between said scintillators (51) and said x-ray source; and a controller unit (26) that is in communication with the source, the detector assembly, and the detector array. (See Figure 19, Column 1 Lines 20-50, Column 11 Lines 20-27, and Column 16 Lines 36-45.) Okumura does not teach the use of an electroluminescent panel (64) in communication with the scintillators (51) and the controller (26), with an active condition that generates radiation which will elicit a response from the detector array (20).

Brabec teaches the use of an electroluminescent panel (64) that is in communication with the scintillators (51) and the controller (26), where said EL panel will generate radiation wherein said radiation will elicit a response from the detectors (20). (See Figure 2; Page 2, Paragraphs 0020-21; Page 3, Paragraph 0027; and Page 5, Claim 28.)

It would be obvious to one of ordinary skill in the art at the time of the invention to use the electroluminescent panel of Brabec in the imaging assembly and detector assembly of Okumura for the purpose of creating higher detection sensitivity, less detector crosstalk, and sharper resolution imaging, as taught by Brabec. (See Page 1.)

With respect to Claim 5, Okumura teaches the elements disclosed above, without the aforementioned EL panel generating exciting radiation. Brabec teaches that the EL panel will generate exciting radiation in response to the x-ray radiation it receives. (See Page 1, Paragraph 0010.)

It would be obvious to one of ordinary skill in the art at the time of the invention to use the EL panel of Brabec, in a manner that generates radiation in response to x-ray excitation, in the imaging assembly of Okumura for higher sensitivity to x-ray radiation and better time detection dynamics, as taught by Brabec. (See Page 1, Paragraphs 007 and 0010.)

With respect to Claims 15-17, Okumura teaches Okumura teaches the elements disclosed above, without the aforementioned EL panel generating exciting radiation; said EL panel being comprised of a 1<sup>st</sup> conductive layer (66), a second conductive layer (68), and an EL film (70) between said layers (Claim 15), wherein the 1<sup>st</sup> conductive layer (66) is transparent (Claim 16) or the 1<sup>st</sup> conductive layer (66) is metallic (Claim 17). Brabec teaches the use of EL film (70) between two conductive surfaces to form the aforementioned EL panel (64), and shows that the 1<sup>st</sup> conductive film (66) may be either a transparent oxide or a metallic conductor. (See Page 2, Paragraph 0022; and Page 3, Paragraphs 0031-34.)

It would be obvious to one of ordinary skill in the art at the time of the invention to use the EL panel of Brabec, and it's said structures, in the imaging assembly of Okumura, for the purpose of allowing radiation to pass through the panel, as in the case

Art Unit: 2882

of the transparent conductive film, or to prevent crosstalk, as taught by Brabec. (See Pages 1 and 3.)

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent to Okumura (USP# 6,658,082) in view of U.S. Patent Publication to Brabec (2004/0113088 A1) as applied to claim 1 above, and further in view of U.S. Patent to Nelson et al. (USP # 6,693,291).

With respect to Claims 6-8, Okumura teaches the elements disclosed above, without the aforementioned EL panel (64) generating radiation and without the controller logic adapted to generate said radiation for the purpose of receiving a response from the detector array (20) in order to diagnose, calibrate, and monitor the detector assembly. Brabec teaches the use of an electroluminescent panel (64) that is in communication with the scintillators (51) and the controller (26), where said EL panel will generate radiation wherein said radiation will elicit a response from the detectors (20), but does not teach the said controller logic.

Nelson teaches the use of a computer system to diagnose the conditions of the detector assembly (18), calibrate the detector assembly parameters, and monitor the functioning of the detector assembly based on said detector output. (See Column 3 Lines 41-67, and Column 4 Lines 1-12.)

It would be obvious to one of ordinary skill in the art at the time of the invention to use the computer system of Nelson in the apparatus of Okumura, which includes the EL



Art Unit: 2882

panel of Brabec, in order to permit adaptive imaging, as taught by Nelson. (See Column 7 Lines 4-25.)

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent to Okumura (USP# 6,658,082) in view of U.S. Patent Publication to Brabec (2004/0113088 A1), and in further view of U.S. Patent Publication to Mliner et al. (USPGPUB # 2005/0111613).

With respect to claims 9 and 10, Okumura teaches the elements disclosed above, without the aforementioned EL panel (64) generating radiation and without the controller logic adapted to generate said radiation for the purpose of receiving a response from the detector array (20) in order to diagnose, calibrate, and monitor the detector assembly. Brabec teaches the use of an electroluminescent panel (64) that is in communication with the scintillators (51) and the controller (26), where said EL panel will generate radiation wherein said radiation will elicit a response from the detectors (20), but does not teach that the controller will have logic adapted to testing only a portion of the said detector assembly (Claim 9) or that said portion is comprised of a selected cell.

Mliner et al. teach that each detector element of the array (20) produces a separate electrical signal that can be acquired separately. It would be obvious to one of ordinary skill in the art at the time of the invention to use the logic of Mliner in the apparatus of Okumura, in view of Brabec, for the purpose of getting an accurate transmission profile, as taught by Mliner. (See Page 1, Paragraph 0002.)

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent to Okumura (USP# 6,658,082) in view of U.S. Patent Publication to Brabec (2004/0113088 A1), and in further view of U.S. Patent to Auphin (USP# 4,047,034).

With respect to Claim 4, Okumura teaches the elements disclosed above, without the aforementioned EL panel (64) generating radiation and without the controller logic adapted to generate said radiation for the purpose of receiving a response from the detector array (20) in order to diagnose, calibrate, and monitor the detector assembly. Brabec teaches the use of an electroluminescent panel (64) that is in communication with the scintillators (51) and the controller (26), where said EL panel will generate radiation wherein said radiation will elicit a response from the detectors (20), but does not teach that the EL panel will generate non-exciting radiation.

Auphin teaches that the electroluminescent diode will generate a reference light signal by non-exciting radiation. It would be obvious to one of ordinary skill in the art at the time of the invention to use the non-exciting radiation of Auphin in the apparatus of Okumura, in view of Brabec, for the purpose of obtaining more accurate values for the location of radiation, and to have less scattered radiation to interfere with imaging. (See Column 1 Lines 7-50, and Column 5 Lines 8-15.)

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent to Auphin (USP# 4,047,034) in view of U.S. Patent to Manian (USP# 5,565,678).

Auphin teaches the use of a testing method for a radiation detector assembly where the EL diode (64) is in communication with scintillators (51), and generates a reference light signal, which, in turn, elicits a response signal from the detector array (20), and uses said signal to evaluate the image assembly, wherein said evaluation comprises diagnosing the detector assembly or calibrating the detector assembly. Auphin does not teach that the EL element (64) can be activated or that the data produced can be evaluated from a remote location (74). (See Figure 3 and Column 1 Lines 4-67.)

Manian teaches that the technicians who operate and perform image evaluation can do these steps from a location that is remote (74) from the area of the imaging. It would be obvious to one of ordinary skill in the art at the time of the invention to use the method of remote location operation of Manian in the activation of the EL radiation and the image data evaluation of Auphin, to minimize radiation exposure to the technicians who perform multiple scans on a daily basis. (See Column 1 Lines 18-45.)

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U. S. Patents to: Grajewski (USP# 4,593,371), Silver et al. (USP# 5,235,528), Newman et al. (USP# 5,420,441), Karellas (USP# 5,465,284), Spivey et al. (USP# 5,886,353), Kinno et al. (USP# 6,185,274), Hoheisel et al. (USP# 6,208,708), Tran (USP# 6,262,421), Gross et al. (USP# 6,310,352), Shimizu et al. (USP# 6,781,143); and U. S. Patent Publications to: Tanigawa (USPGPUB# 2002/0191737),

Nelson et al. (USPGPUB# 2003/0209662), and Sherman et al. (USPGPUB# 2005/0094763).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anastasia Midkiff whose telephone number is 571-272-5053. The examiner can normally be reached on M-F 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on 571-272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ASM  
08/19/05

  
DAVID V. BRUCE  
PRIMARY EXAMINER

Application/Control Number: 10/707,604  
Art Unit: 2882

Page 12